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REMARKS

Claims 1-14 were in the application as originally filed. Claim 4 had been previously cancelled. New Claims 15 -18 were added by a previous amendment. New Claims 19 and 20 area added herein.

REJECTIONS UNDER 35 USC 112

Claims 1-3 and 5-18 are rejected under 35 USC 112 as failing to comply with the written description requirement. The examiner objects to the use of the expression "particle size of greater than 0.1-1.2 microns". The Examiner claims that there is support for "average particle size (D50) of 0.1 to 1.2 microns. These claims have been amended to replace the objectionable terms.

Claims 5, 9 15, 17 and 18 are rejected under 35 USC 112 as being indefinite. Claim 5, which depends upon claim 1, does not have antecedent basis for the terms "said organic polymer).

Newly added claim 15 recites that product may be ink jetted without further agitation. The examiner objects to the term "may" and objects to "further agitation" without prior disclosure of agitation. This claim has been amended to remove the lack of clarity.

Newly added Claims 17 and 18 are objected to as it is not clear about what is claimed, i.e. the process or the product. These claims have been converted to use claims.

Rejections Under 35 USC 102

Claims 1-3,5, 8-10, 12 and 14-17 are rejected under 35 USC 102(b) as being anticipated by DE 19846096. This German reference is also directed to nano-sized materials, i.e. . . . up to 100 nm. The claims are now limited to particles where the average particle size (D50) is 0.1 to 1.2 microns . It is believed that the t amendment avoids this reference. The Examiner asserts that although there is no specific disclosure in the reference that the ink has increased, up to 24 hours, stability, the Examiner asserts that the referenced ink has similar characteristics to the presently claimed ink and would inherently possess the characteristics of the presently claimed ink.

Applicants point out that DE 19846096 does not disclose a composition with a viscosity of said composition is between 5 mPa.s to 50 mPa.s at a temperature of 25 to 35°C.

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Furthermore, there is no disclosure of a composition which is stable for 24 hours. All of the claimed elements of claim 1 of the present invention are not disclosed in DE 19846096.

Furthermore, DE 19846096 does not disclose a composition comprising a conductive material of silver. Newly added claim 20 identifies a silver composition.

Claims 1-5, 5-6, 8-12 and 14-18 are rejected less than 35 USC 102 (e) as anticipated by Kodas ET al. (US 1003/0175411).

Kodas et al described ink jetting **precursor** compositions of electronic conductor, resistor and dielectric compositions. The precursors are soluble organometallic materials. Kodas et al also mentioned that nano-sized particles could be mixed with precursor compositions. Applicant's claims are directed to ink jet compositions **with large particles and a low viscosity**, at the same time, because applicant discovered that PVP polymers can enable such compositions. The Examiner notes that although there is no disclosure in Kodas et al. about the stability for 24 hours. The Examiner asserts that such stability might be inherent in Kodas et al. given its composition. Applicant argues that the particles are different from Kodas et al. and along with its stability overcomes the Examiner's assertion that the claims are anticipated.

Applicant also points out that Kodas at paragraph [0045] recites a hollow micron-size particle and further goes on to describe that such particles "...have a useful shelf life without the necessity of mechanical mixing techniques. Thus, it is preferred that a large mass fraction of the particles, such as at least about 50 weight percent remains suspended in the liquid for at least 1 hour." At paragraph [0054]. "Furthermore, the particles can be completely redispersed after settling, such as by mixing, At paragraph [0054]. This clearly indicates that the composition of Kodas is not capable of stability for 24 hours. Kodas details that its composition is only stable for 1 hour and requires mechanical mixing techniques after 1 hour.

Applicants further point out that the composition of the present invention is "stable for up to 24 hours without noticeable silver particle settlement and could still be jetted. After about 24 hours, a stable and jettable dispersion can be re-obtained by simply shaking of the mixture manually." (See Examples)

Additionally, the Examiner points out that Kodas discloses a composition with a viscosity of 10-40 cP. However, Kodas does not disclose a particular viscosity at a particular temperature. In fact, Kodas discloses that its viscosity is "...measured at a shear rate of 132 Hz and under the relevant deposition condition, particularly temperature. For example, some precursor compositions may be heated prior to and/or during deposition to reduce viscosity."

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At paragraph [0022]. The present composition does not require such heating. As such, Applicant's assert that all of the elements of claim 1 are not disclosed in Kodas.

REJECTIONS UNDER 35 USC 103

Claim 5 has been rejected as obvious over Hirai in view of Zhu et al. The Examiner notes that the difference between applicant's claim and these references is the requirement of poly(meth) acrylate.

Hirai is said to disclose ink with binder. The Examiner found it obvious to use acrylin resin in the ink of Hirai to produce ink with rapid dry time and arrive at the present invention.

As noted previously, Hirai discloses a composition with nano-sized particles. As noted above, the amendment giving an average particle size avoids this nano-sized materials of the reference.

Claims 13 is rejected as obvious over DE 19846096 or Kodas in view of Shioi. The Examiner notes that the difference between the present claims of Harai or Kodas is the coating of the conductor with fatty acid. Further differences are detailed above under the 35 USC 102 issues. Applicant respectfully points out that the present invention requires a specific type of monomer not found in Kodas. Furthermore, the arguments presented above in regard to Kodas are incorporated herein.

Shioi is cited as disclosing inks with metal powders coated with fatty acid surfactant and providing the motivation to combine Kodas and Harai with the fatty acid. Shioi et. al claim an "ink composition for writing on an absorbent or pervious writing surface to form thereon a writing or marking composed of an inner portion of a metallic color with outer contour portions therearound of a dyestuff-based color, which composition consists essentially of: a nonleafing metal powder pigment as a first pigment, an inorganic pigment other than a metal powder or organic pigment as a second pigment, a dyestuff, and a solvent, the nonleafing metal powder pigment being dispersed in the solvent and having a particle size sufficiently large so as to substantially not permeate or be absorbed into the writing surface, and the second pigment being dispersed in the solvent and either having a particle size sufficiently large so as to substantially not permeate or be absorbed into the writing surface, or having a particle size sufficiently large so as to substantially be absorbed on the nonleafing metal powder pigment, the dyestuff being dissolved in the solvent, being capable of substantially permeating or being absorbed into the writing surface and diffusing into the area on the writing surface proximate to the writing, whereby the nonleafing metal powder

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pigment forms in conjunction with the second pigment the inner portion of the metallic color, and the dyestuff forms the outer contour portions of the dyestuff-based color around the inner portion." The present invention, while in the ink field, does not contain the specific dyestuff materials and pigments disclosed in Shioi.

Claim 7 is rejected over Kudas et al. which uses monomer, along with Adkins. Adkins et al is cited as disclosing the equivalence and interchangeability of using certain organics. Applicant again points out that the average particle size differentiates its claims from Kudas and would apply to Claim 7 that depends upon Claim 1 through Claim 6.

In view of the foregoing discussion and amendments, allowance of Claims 1-20 is respectfully requested.

If anything further is required to advance this case to allowance the Examiner is invited to contact applicants' attorney at the telephone number below.

Respectfully submitted,



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